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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,989	02/27/2001	Josef Eichinger	P010086	3461

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EXAMINER	
PHU, PHUONG M	

ART UNIT	PAPER NUMBER
2631	5

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/763,989	EICHINGER ET AL.	
	Examiner	Art Unit	
	Phuong Phu	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Oishi et al (6,028,894).

As per claims 1 and 7, see figures 1, 7 and 9, and col. 6, line 18 to col. 10, line 2, Oishi et al discloses a method and associated system (see figure 1) comprising:

-a transmitter (12), at one communication end, which comprises:

encoding step/means (12a, 12bI, 12bQ) for representing a digital information as symbols;

modulator step/means (12d) for mapping said symbols onto signal values, and

transmitting step/means (12e, 12f) for transmitting said signal values onto a transmission channel;

-a receiver (11), at the other communication end, which comprises:

receiving step/means (11c, 11dI, 11dQ)) for receiving transmitted signal values and forming received signal values; and

demodulator step/means (11e) for mapping received signal values onto detected symbols; and representing said detected symbols as detected digital information; and

-a device (13) for measuring a transmission quality of said transmission channel which comprises (see figures 7 and 9):

modulating step/means ((51 or 61), 52, 53) for generating a reference signal (S), in that signal values are allocated to successive detected symbols (see col. 9, lines 4-42) ; and

transmission quality determination step/means (57) for determining a transmission quality (SIR) of said transmission channel based on said reference signal and on said received signal values.

As per claim 2, Oishi et al discloses (see figure 7):

step/means (56) for determining a noise signal part (I) of said received values based on said reference signal (see also col. 1, lines 4-11); and

step/means (57) for calculating the transmission quality based on said reference signal and said noise signal part.

As per claims 3-5, Oishi et al discloses (see figure 7):

step/means (52, 53) for determining an average power of said reference signal;

step/means (52, 53, 55) for determining an average power of said noise signal part; and

step/means (57) for calculating a signal-to-noise ratio based on said average power of said reference signal and on said average power of noise signal part;

wherein determining said average power of said noise signal part comprises calculating an average power of a difference of said received signal values and said reference signal by

forming a difference of said average power of said received signal values and said average power of said reference signal.

As per claim 8, Oishi et al discloses (see figure 7):

means (52, 53) for determining a reference signal value average power of said reference signal;

means (54, 55) for determining a received signal value average power of said received signal values;

means (56) for subtracting said reference signal average power from said received signal value average power to generating a noise signal part average power of a noise signal part; and

means (57) for calculating a signal-to-noise ratio by division of said reference signal average power by said noise signal part average power.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al in view of Birchler et al (5,440,582).

As per claim 9, Oishi et al does not disclose that a noise signal part average power of said noise signal part is obtained by, first, subtracting said reference signal from said received signal values to generating said noise signal part, and, then, determining a noise signal part average power of said noise signal part, as claimed. But, as applied for claim 8, Oishi et al teaches that a

noise signal part average power of said noise signal part is obtained by subtracting said reference signal average power from said received signal value average power to generating a noise signal part average power of a noise signal part.

In the same endeavor for determining a noise signal part average power of a noise signal part, Birchler et al discloses that a noise signal part average power of said noise signal part is obtained by, first, (206) subtracting said reference signal from said received signal values to generating said noise signal part, and, then, (207) determining a noise signal part average power of said noise signal part, as claimed. (see figure 2, and col. 3, line 17 to col. 4, line 60).

It would have been obvious for one skilled in the art at the time the invention was made that Oishi et al method and Birchler et al method are equivalent in determining a noise signal part average power of a noise signal part. Therefore, it would have obvious that one skilled in the art, based on his design choice, to implement either Oishi et al method or Birchler et al method in determining a noise signal part average power of a noise signal part in Oishi et al system without affecting the overall performance of the system.

6. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al in view of Kansakoski et al (5,214,687).

As per claims 6 and 10, Oishi et al does not disclose step/means for allocating a bit error rate to said calculated signal-to-noise ratio for specifying a measured value for said transmission quality.

Kansakoski et al discloses a step/means in which a bit error rate of a received signal received from a transmission channel, as an indication of transmission quality of said channel, is

derived by allocating to a calculated signal-to-noise ratio of said received signal (see col. 1, lines 65-68).

Therefore, for an enhancement, it would have been obvious for one skilled in the art to implement Oishi et al method/system with a step/means of allocating a bit error rate of a received signal to a calculated signal-to-noise ratio of said received signal, as taught by Kansakoski et al, in order to obtain another indication of transmission quality, besides the calculated signal-to-noise ratio of said received signal.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu
Primary Examiner
Art Unit 2631

Phuong Phu
03/30/04

PHOUNG PHU
PRIMARY EXAMINER